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Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 09/966,740	<b>Applicant(s)</b> OGURA ET AL.	
	<b>Examiner</b> Dalei Dong	<b>Art Unit</b> 2879	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 12 July 2004.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-60 is/are pending in the application.
- 4a) Of the above claim(s) 50-55 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-49 and 56-60 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948)                                    | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Claim Rejections - 35 USC § 102*

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-5, 27, 29-32 and 56-60 are rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent No. 5,811,177 to Shi.

Regarding to claim 1, Shi discloses in Figure 3, a light emitting device comprising: a substrate (10); an EL element (20) formed over the substrate; a barrier film (22) covering the EL element (20); an absorption film (24) formed on the barrier film; and a passivation film (26) formed on the absorption film (26).

Regarding to claim 2, Shi discloses the absorption film (24) is a hygroscopic film (see column 3, lines 57-58).

Regarding to claim 3, Shi discloses the absorption film (24) comprises alkaline-earth metals (see column 3, lines 60-62).

Regarding to claim 4, Shi discloses the absorption film has a thickness of 1 to 3 microns (see column 4, lines 2-4).

Regarding to claim 5, it has been held that a recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus satisfying the claimed structural limitations. *Ex parte Masham*, 2 USPQ2d (1987).

Regarding to claim 27, Shi discloses in Figure 3, a substrate (10); an EL element (20) comprising an organic light emitting layer formed over the substrate (10); a barrier film (22) covering the EL element (20); an inorganic hygroscopic film (24) formed on the barrier film (22); and a passivation film (26) on the inorganic hygroscopic film (24).

Regarding to claim 29, Shi discloses the barrier film (22) comprises a material selected from the group consisting of carbon, silicon oxide, silicon nitride, and copper phthalocyanine (see column 3, lines 26-30).

Regarding to claim 30, Shi discloses the inorganic hygroscopic absorption film (24) comprises alkaline-earth metals (see column 3, lines 60-62).

Regarding to claim 31, Shi discloses the absorption film has a thickness of 1 to 3 microns (see column 4, lines 2-4).

Regarding to claim 32, it has been held that a recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the

claimed apparatus from a prior art apparatus satisfying the claimed structural limitations.

*Ex parte Masham*, 2 USPQ2d (1987).

Regarding to claim 56, Shi discloses in Figure 3, a substrate (10); an EL element (20) formed over the substrate; a barrier film (22) covering the EL element; an absorption film (24) formed on the barrier film; and a passivation film (26) formed on the absorption film, wherein light emitted from the EL element is discharged to a side of the EL element closest to the substrate, further it is old and well known in the art to emit light in either direction of the EL element.

Regarding to claim 57, Shi discloses the absorption film (24) is a hygroscopic film (see column 3, lines 57-58).

Regarding to claim 58, Shi discloses the absorption film (24) comprises alkaline-earth metals (see column 3, lines 60-62).

Regarding to claim 59, Shi discloses the absorption film has a thickness of 1 to 3 microns (see column 4, lines 2-4).

Regarding to claim 60, it has been held that a recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the

claimed apparatus from a prior art apparatus satisfying the claimed structural limitations.

*Ex parte Masham*, 2 USPQ2d (1987).

***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 6-8, 10-14, 16, 17, 23, 24, 26, 33-39, 41 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5,757,126 to Harvey in view of U.S. Patent No. 4,599,538 to Hidler.

Regarding to claim 6, Harvey discloses in Figure 4, a first substrate (11); an EL element (12) formed over the substrate; an absorption film (26) formed over the EL element (12); a passivation film (28) formed over the connection wiring and the absorption film.

However, Harvey does not disclose a sealing substrate connected to the first substrate enclosing the EL element and the connection wiring and the passivation film extend beyond the sealant. Hidler teaches in Figure 2, a connection wiring (50) formed over the first substrate (20); a sealing substrate (70) connected to the first substrate (20) through a sealant (62), wherein the EL element is provided in a space surrounded by the

first substrate, the sealant, and the sealing substrate; and wherein the connection wiring (50) and the passivation film (60) extended beyond the sealant.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have utilized the extended the passivation film of Harvey beyond the sealant as taught by Hidler as well as the sealing substrate and the sealant of Hidler for the light emitting device of Harvey in order to protect and insulate the wiring connection as well as further protect the electroluminescent element from external impurities and thus prolong the lifetime of the electroluminescent element.

Regarding to claim 7, Harvey discloses the absorption film (26) is a hygroscopic film (see column 6, lines 1-3).

Regarding to claim 8, Harvey discloses the absorption film comprises alkaline-earth metal (see column 5, lines 65-67).

Regarding to claim 10, Hidler teaches the sealant is not overlapped with the absorption film.

Regarding to claim 11, it has been held that a recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus satisfying the claimed structural limitations. *Ex parte Masham*, 2 USPQ2d (1987).

Regarding to claim 12, Harvey discloses in Figure 4, a first substrate (11); an EL element (12) formed over the first substrate, the EL element comprising an anode (13), an EL layer (14), and a cathode (15); an absorption film (26) formed over the cathode; a passivation film (28) formed over the connection wiring and the absorption film.

However, Harvey does not disclose a connection wiring a sealing substrate connected to the first substrate through a sealant wherein the connection wiring and the passivation film extend beyond the sealant. Hidler teaches in Figure 2, a connection wiring (50) formed over the first substrate (20); a sealing substrate (70) connected to the first substrate (20) through a sealant (62), wherein the EL element is provided in a space surrounded by the first substrate, the sealant, and the sealing substrate; and wherein the connection wiring (50) and the passivation film (60) extended beyond the sealant.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have utilize the extended the passivation film of Harvey beyond the sealant as taught by Hidler as well as the sealing substrate and the sealant of Hidler for the light emitting device of Harvey in order to protect and insulate the wiring connection as well as further protect the electroluminescent element from external impurities and thus prolong the lifetime of the electroluminescent element.

Regarding to claim 13, Harvey discloses the absorption film (26) is a hygroscopic film (see column 6, lines 1-3).



Regarding to claim 14, Harvey discloses the absorption film comprises alkaline-earth metal (see column 5, lines 65-67).

Regarding to claim 16, Harvey discloses the absorption film is formed over the anode, and the EL layer, the cathode. However, the absorption film are successively formed under an inert gas atmosphere, is the method of forming a device and it is not germane to the issue of the patentability of the device itself. Therefore, this limitation has not been given patentable weight.

Regarding to claim 17, it has been held that a recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus satisfying the claimed structural limitations. *Ex parte Masham*, 2 USPQ2d (1987).

Regarding to claim 23, Harvey discloses in Figure 4, a first substrate (11); an EL element (12) formed over the substrate; an inorganic hygroscopic film (26) formed over the EL element (12); a passivation film (28) formed over the connection wiring and the absorption film.

However, Harvey does not disclose a sealing substrate connected to the first substrate enclosing the EL element and the connection wiring and the passivation film extend beyond the sealant. Hidler teaches in Figure 2, a connection wiring (50) formed over the first substrate (20); a sealing substrate (70) connected to the first substrate (20)

through a sealant (62), wherein the EL element is provided in a space surrounded by the first substrate, the sealant, and the sealing substrate; and wherein the connection wiring (50) and the passivation film (60) extended beyond the sealant.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have utilize the extended the passivation film of Harvey beyond the sealant as taught by Hidler as well as the sealing substrate and the sealant of Hidler for the light emitting device of Harvey in order to protect and insulate the wiring connection as well as further protect the electroluminescent element from external impurities and thus prolong the lifetime of the electroluminescent element.

Regarding to claim 24, Harvey discloses the absorption film comprises alkaline-earth metal (see column 5, lines 65-67).

Regarding to claim 26, it has been held that a recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus satisfying the claimed structural limitations. *Ex parte Masham*, 2 USPQ2d (1987).

Regarding to claim 33, Harvey discloses in Figure 4, a first substrate (11); an EL element (12) comprising an organic light emitting layer formed over the substrate; an barrier film (24) covering the EL element; an inorganic hygroscopic film (26) formed on the barrier film; and a passivation film (28) formed on the inorganic hygroscopic film.

However, Harvey does not disclose a second substrate opposed to the first substrate enclosing the EL element. Hidler teaches in Figure 2, a connection wiring (50) formed over the first substrate (20); a sealing substrate (70) connected to the first substrate (20) through a sealant (62), wherein the EL element is provided in a space surrounded by the first substrate, the sealant, and the sealing substrate; and wherein the connection wiring (50) and the passivation film (60) extended beyond the sealant.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have utilize the sealing substrate and the sealant of Hidler for the light emitting device of Harvey in order to protect and insulate the wiring connection as well as further protect the electroluminescent element from external impurities and thus prolong the lifetime of the electroluminescent element.

Regarding to claim 34, Harvey discloses in Figure 10, a metal film (52 or laminated metal foil) covers the sealant layer.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have utilize the metal film of Harvey to cover the sealant and the second substrate of Hidler in order to protect the substrate and the sealant from external force and prevents the light emitting device from damage.

Regarding to claim 35, Harvey in view of Hidler discloses the claimed invention except for the metal film formed from material selected from Al and Mg. It would have been obvious to one having ordinary skill in the art at the time the invention was made ot

have utilize the well known material for the metal film, since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. *In re Leshin*, 125 USPQ 416.

Regarding to claim 36, it is old and well known in the art to fill the space with inert gas between the sealant substrates, thus it would have been obvious to one having ordinary skill in the art at the time the invention was made to have filled the space between the substrate with inert gas.

Regarding to claim 37, it is old and well known in the art wherein the EL element further comprises an anode, a hole injection layer, a hole transfer layer and a cathode. Thus, it would have been obvious to one having ordinary skill in the art to utilize an old and well known EL element in the light emitting device.

Regarding to claim 38, Harvey discloses the barrier film comprises a material selected from the group consisting of carbon, silicon oxide, silicon nitride, and copper phthalocyanine (see column 5, lines 46-50).

Regarding to claim 39, Harvey discloses the absorption film comprises alkaline-earth metal (see column 5, lines 65-67).

Regarding to claim 41, it has been held that a recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus satisfying the claimed structural limitations. *Ex parte Masham*, 2 USPQ2d (1987).

5. Claims 9, 15, 25, 40 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5,757,126 to Harvey in view of U.S. Patent No. 4,599,538 to Hidler in further view of U.S. Patent No. 5,811,177 to Shi.

Regarding to claim 9, Harvey in view of Hidler discloses a first substrate; a connection wiring formed over the first substrate; an EL element formed over the first substrate; an absorption film formed over the EL element; a passivation film formed over the connection wiring and the absorption film; and a sealing substrate connected to the first substrate through a sealant, wherein the EL element is provided in a space surrounded by the first substrate, the sealant, and the sealing substrate; and wherein the connection wiring and the passivation film extend beyond the sealant.

However, Harvey and Hidler does not disclose the absorption film has a thickness of 1 to 3 microns. Shi teaches the absorption film has thickness of approximately 0.05 to 10 microns.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have utilize made the absorption film of Harvey with the thickness according to Shi and extended the passivation film of Harvey beyond the sealant as taught by Hidler as well as the sealing substrate and the sealant of Hidler for the light

emitting device of Harvey in order to protect and insulate the wiring connection as well as further protect the electroluminescent element from external impurities and thus prolong the lifetime of the electroluminescent element.

Regarding to claim 15, Shi teaches the absorption film has a thickness of 1 to 3 microns and the motivation to combine is the same as above.

Regarding to claim 25, Shi teaches the absorption film has a thickness of 1 to 3 microns and the motivation to combine is the same as above.

Regarding to claim 40, Shi teaches the absorption film has a thickness of 1 to 3 microns and the motivation to combine is the same as above.

6. Claims 18-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5,684,365 to Tang in view of U.S. Patent No. 5,811,177 to Shi.

Regarding to claim 18, Tang discloses in Figure 3, a light emitting device comprising: a substrate (41); a TFT formed over the substrate; an EL element electrically connected with the TFT.

However, Tang does not disclose an absorption film formed over the EL element and wherein the EL element is interposed between the substrate and the absorption film. Shi teaches in Figure 3, an absorption film (24) formed over the EL element (12) and the EL element (12) is interposed between the substrate (11) and the absorption film (24).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have applied the absorption film of Shi on top of TFT and EL element of Tang in order to provide a hermetically sealing of the electroluminescent devices and further protect the electroluminescent device from damages.

Regarding to claim 19, Shi discloses the absorption film (24) is a hygroscopic film (see column 3, lines 57-58).

Regarding to claim 20, Shi discloses the absorption film (24) comprises alkaline-earth metals (see column 3, lines 60-62).

Regarding to claim 21, Shi discloses the absorption film has a thickness of 1 to 3 microns (see column 4, lines 2-4).

Regarding to claim 22, it has been held that a recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus satisfying the claimed structural limitations.

*Ex parte Masham*, 2 USPQ2d (1987).

7. Claim 28 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5,811,177 to Shi in view of U.S. Patent No. 6,046,543 to Bulovic.

Regarding to claim 28, Shi discloses in Figure 3, a substrate (10); an EL element (20) comprising an organic light emitting layer formed over the substrate (10); a barrier film (22) covering the EL element (20); an inorganic hygroscopic film (24) formed on the barrier film (22); and a passivation film (26) on the inorganic hygroscopic film (24).

However, Shi does not disclose the EL element further comprises a hole injection layer and a hole transfer layer. Bulovic teaches in Figure 1, an EL element (10) comprises an anode (18), a hole injection layer (17), a hole transfer layer (16) and a cathode (13).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have utilize the EL element of Bulovic for the light emitting device of Shi in order to achieve a high reliable, high efficiency light emitting device.

8. Claims 42-49 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5,684,365 to Tang in view of U.S. Patent No. 5,811,177 to Shi in further view of U.S. Patent No. 4,599,538 to Hidler.

Regarding to claim 42, Tang discloses in Figures 2 and 3, a first substrate (41); a plurality of switching element (TFT1 and TFT2) formed over the first substrate, each of the plurality of switching elements comprising a TFT; a plurality of EL element formed over the first substrate and operationally connected to the plurality of switching elements, each of the plurality of EL element comprising an organic light emitting layer; a driver circuit comprising TFT formed over the first substrate.



However, Tang does not disclose an inorganic hygroscopic film and a second substrate opposed to the first substrate. Shi teaches in Figure 3, an inorganic hygroscopic film (24) formed over the EL element. Hidler further teaches a second substrate (70) opposed to the first substrate (20).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have utilize the inorganic hygroscopic film of Shi and the second substrate of Hidler for the light emitting device of Tang in order to protect the electrical components and prevent the permeation of oxygen and moisture.

Regarding to claim 43, Shi discloses in Figure 5, a metal film (30 or laminated metal foil) covers the sealant layer.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have utilize the metal film of Shi to cover the sealant and the second substrate of Hidler in order to protect the substrate and the sealant from external force and prevents the light emitting device from damage.

Regarding to claim 44, Tang in view of Shi and in further view of Hidler discloses the claimed invention except for the metal film formed from material selected from Al and Mg. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have utilize the well known material for the metal film, since it has been held to be within the general skill of a worker in the art to select a known

material on the basis of its suitability for the intended use as a matter of obvious design choice. *In re Leshin*, 125 USPQ 416.

Regarding to claim 45, it is old and well known in the art to fill the space with inert gas between the sealant substrates, thus it would have been obvious to one having ordinary skill in the art at the time the invention was made to have filled the space between the substrate with inert gas.

Regarding to claim 46, it is old and well known in the art wherein the EL element further comprises an anode, a hole injection layer, a hole transfer layer and a cathode. Thus, it would have been obvious to one having ordinary skill in the art to utilize an old and well known EL element in the light emitting device.

Regarding to claim 47, Shi discloses the absorption film comprises alkaline-earth metal (see column 5, lines 65-67) and the motivation to combine is the same as above.

Regarding to claim 48, Shi teaches the inorganic hygroscopic film has a thickness of 1 to 3 microns and the motivation to combine is the same as above.

Regarding to claim 49, it has been held that a recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the

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claimed apparatus from a prior art apparatus satisfying the claimed structural limitations.

*Ex parte Masham*, 2 USPQ2d (1987).

### ***Response to Arguments***

9. Applicant's arguments with respect to claims 1-49 and 56-60 have been considered but are moot in view of the new ground(s) of rejection.

### ***Conclusion***

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

The following prior art are cited to further show the state of the art of composition of a light emitting device.

U.S. Patent No. 5,124,204 to Yamashita.

U.S. Patent No. 5,771,562 to Harvey.

U.S. Patent No. 6,150,187 to Zyung.

U.S. Patent No. 6,160,346 to Vleggaar.

U.S. Patent No. 6,605,826 to Yamazaki.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dalei Dong whose telephone number is (571)272-2370. The examiner can normally be reached on 8 A.M. to 5 P.M..

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nimeshkumar Patel can be reached on (571)272-2457. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



D.D.

September 28, 2004



Joseph Williams  
Primary Examiner  
Art Unit 2879